

AMENDMENTS TO THE CLAIMS

Please cancel claim 39, without prejudice or disclaimer of subject matter, and amend claims 1, 5, 8, 10, 38, and 43 to 45, as shown below. This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) An apparatus for monitoring performance of an industrial process comprising:

a service portal for collecting, transmitting and analyzing parameter data from ~~process field devices~~ a process field device, the service portal comprising:

a network connection ~~that connects to a process control system~~ configured to connect the service portal to the process field device and a process control device of the industrial process, ~~the process control device being associated with the process field device~~;

a remote collector ~~that collects parameter data~~ configured to collect application objects from the process field device and a block processor of the process control device using control blocks, the application objects including real-time and archived parameter data from the process field device ~~devices and application object data from at least one workstation associated with the process field devices~~;

a processor ~~that identifies, sorts, and stores~~ configured to perform a real-time loop analysis of the industrial process using the collected application objects ~~parameter data~~;

a historian database configured to store the collected application objects;

a communications module ~~for transmitting~~ configured to transmit the stored ~~parameter data~~ application objects to a remote monitoring station ~~for analysis~~; and

a block configurator ~~for controlling application object data generated for the at least one workstation from a central location~~ configured to:

save block types to a block database,

generate an application object file from the saved block types,

effectuate transfer of the application object file to the block processor, and

effectuate creation of the application objects from the application object files.

2. (Original) The apparatus of claim 1 wherein the network connection is a wireless network connection.
3. (Original) The apparatus of claim 1 wherein the network connection is an optical network connection.
4. (Original) The apparatus of claim 1 wherein the network connection is a radio frequency network.
5. (Currently Amended) The apparatus of claim 1 wherein the process control device comprises remote collector collects the parameter data from a workstation.
6. (Original) The apparatus of claim 1 wherein the processor performs simple analysis of the parameter data.
7. (Original) The apparatus of claim 1 wherein the processor performs trends analysis of the parameter data.
8. (Currently Amended) The apparatus of claim 1 wherein the processor performs statistical analysis of the parameter data.
9. (Original) The apparatus of claim 1 wherein the processor models the parameter data.
10. (Currently Amended) The apparatus of claim 1 wherein the processor develops a simulation of the industrial process.
11. (Withdrawn) A method of optimizing industrial production comprising:

providing an onsite production process parameter monitoring device to a client for monitoring parameters of a set of field devices associated with a client production process wherein the monitoring device can transmit process data offsite for analysis;

associating the monitoring device with a data output of each field device within the set of field devices, wherein each field device gathers process parameter data associated with an operation performed and transmits the data to the monitoring device associated with the process, and wherein the data stream transmitted from each field device is split into individual process parameter data;

monitoring each field device through a plurality of performances of the process, while gathering parameter data from each performance; and

transmitting the gathered data offsite for analysis.

12. (Withdrawn) The method of claim 11 further comprising maintaining an on site central data collection device wherein all of the data associated with the process is collected for on site use and offsite use.

13. (Withdrawn) The method of claim 11 wherein associating the monitoring devices with a data output of every individual field device includes:

defining a potential data output stream from each field device; and

establishing a data communications link between each field device and the associated monitoring device.

14. (Withdrawn) The method of claim 13 wherein defining a potential data output stream includes:

identifying relevant process parameters; and

ensuring that each relevant process parameter is being monitored.

15. (Withdrawn) The method of claim 13 wherein establishing a data communications link between each field device and the associated monitoring device includes linking the field devices

to the associated monitoring device using any combination of wireless, infrared, RF, direct connect, POTS, Ethernet, LAN, WAN, internet, intranet, fiber optic, or optical communications.

16. (Withdrawn) The method of claim 11 wherein gathering parameter data for each performance of a field device includes:

- creating a data historian for each parameter, for each field device and for each production process; and

- storing the data in an on site central data collection device and in an offsite storage and analysis device.

17. (Withdrawn) The method of claim 11 wherein the monitoring devices transmit the data offsite using any combination of wireless, infrared, RF, direct connect, Ethernet, LAN, WAN, internet, intranet, fiber optic, or optical communications.

18. (Withdrawn) A method of optimizing industrial production comprising:

- providing a plurality of onsite production process parameter monitoring devices to a client for monitoring parameters of a set of field devices associated with each client product wherein each monitoring device can transmit process data to an offsite analysis group;

- associating the monitoring devices with a data output of each field device in the set of field devices, wherein each field device gathers process parameter data associated with an operation performed and transmits the data to the monitoring device associated with a process; monitoring each field device through a plurality of performances of the process, while gathering parameter data from each performance;

- transmitting the gathered data offsite for analysis;

- analyzing the gathered data offsite using process experts, wherein the process experts develop optimal physical parameter ranges for each field device of each client production process; and

- initiating adjustments to a field device controller for each field device with the offsite process experts through instructions sent to an on-site service portal and based on the analysis of the data performed by the offsite process experts.

19. (Withdrawn) The method of claim 18 further comprising an on site central data collection device wherein all of the data transmitted offsite is collected for on site use.
20. (Withdrawn) The method of claim 18 further comprising transmitting the optimal physical parameters for each field device of each client production process to the client.
21. (Cancelled).
22. (Withdrawn) The method of claim 18 wherein the adjustments are made while the process is running.
23. (Withdrawn) The method of claim 18 wherein the adjustments are made while the process is idle.
24. (Withdrawn) The method of claim 18 wherein the adjustments result in optimal productivity for the process.
25. (Withdrawn) The method of claim 18 wherein the field devices transmit data to the monitoring device using any combination of wireless, infrared, RF, direct connect, Ethernet, LAN, WAN, internet, intranet, fiber optic, or optical communications.
26. (Withdrawn) The method of claim 18 wherein the monitoring devices transmit the data offsite using any combination of wireless, infrared, RF, direct connect, Ethernet, LAN, WAN, internet, intranet, fiber optic, or optical communications.
27. (Withdrawn) The method of claim 18 wherein analyzing the data includes developing a statistical model for the data.

28. (Withdrawn) The method of claim 18 wherein analyzing the data includes developing simulation models of the process using the data.

29. (Withdrawn) The method of claim 18 wherein analyzing the data includes doing a trend analysis of the data.

30. to 37. (Cancelled).

38. (Currently Amended) A system for monitoring performance of an industrial process comprising:

at least one ~~workstation~~ process control device for monitoring and controlling process field devices, the process control device further comprising a block processor, application objects and data probes associated with the application objects;

a plurality of process field devices operatively communicated with the at least one process control device ~~workstation~~; and

a service portal for collecting, transmitting and analyzing parameter data from the ~~process field devices~~ process field device, the service portal comprising:

a network connection ~~that connects to a process control system~~ configured to connect the service portal to the process field device and the process control device of the industrial process;

a remote collector ~~that collects parameter data~~ configured to collect application objects from the process field device and the block processor using control blocks, the application objects including real-time and archived parameter data from the process field device devices;

a processor ~~that identifies, sorts, and stores~~ configured to perform a real-time loop analysis of the industrial process using the collected application objects; ~~parameter data~~; and

a historian database configured to store the collected application objects;

a communications module ~~for transmitting~~ configured to transmit the stored ~~parameter data~~ application objects to a remote monitoring station ~~for analysis~~; and

a block configurator configured to:

save block types to a block database,
generate an application object from the saved block types,
effectuate transfer of the application object file to the block processor, and
effectuate creation of the application objects from the application object
files

~~wherein the block processor of the at least one workstation creates the application objects from application object files controlled by the processor of the service portal, initializes the application objects and defines the data probes.~~

39. ~~(Cancelled) The system of claim 38 wherein the service portal further comprises a block configurator for controlling application object data generated for the at least one workstation.~~

40. (Previously Presented) The system of claim 38 wherein the network connection is a wireless network connection.

41. (Previously Presented) The system of claim 38 wherein the network connection is an optical network connection.

42. (Previously Presented) The system of claim 38 wherein the network connection is a radio frequency network.

43. (Currently Amended) The system of claim 38 wherein the process control device comprises remote collector ~~collects the parameter data from~~ a workstation.

44. (Currently Amended) The system of claim 38 wherein the processor performs at least one of the group consisting of simple analysis of the parameter data; trends analysis of the parameter data; statistical analysis of the parameter data; modeling of the parameter data; and a simulation development of the industrial process.

45. (Currently Amended) The system of claim 38 wherein the at least one process control device ~~workstation~~ comprises a host workstation and at least two local workstations operatively connected to respective process field devices.

46. (Previously Presented) The system of claim 45, wherein the host workstation comprises a block manager for generating application object files from block types stored within a block database of the host workstation, the block manager being configured to transfer the application object files to respective block processors of each local workstation.